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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/603,606

06/26/2003

Ki Bok Park

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2885

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03/21/2005

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EXAMINER

SCHECHTER, ANDREW M

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.D

Office Action Summary

Application No.

10/603,606

Applicant(s)

PARK, KI BOK

Examiner

Andrew Schechter

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-11 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 16 December 2004 have been fully considered but they are not persuasive.

The applicant has amended independent claims 1 and 7 to recite that each corner has a vent portion extending from the seal pattern, and argues that *Asakura* and *Suzuki* do not disclose this. This is not persuasive. *Asakura* does not disclose this in the embodiment previously relied upon, but does disclose it in Figs. 9-10. *Suzuki* does disclose the vent portions extending from the seal pattern. The previous rejections are therefore repeated below, modified appropriately to address the amended limitations.

Claim Objections

2. Claim 6 is objected to because of the following informalities: "with" should be "within". Appropriate correction is required.
3. Claim 1 is objected to because of the following informalities: "vent portions" in line 9 should be "venting portions". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 5-9 are rejected under 35 U.S.C. 102(e) as being anticipated by *Asakura et al.*, U.S. Patent No. 6,531,329.

Asakura discloses [see Figs. 3, 9, and 10, for instance] a liquid crystal display device comprising first and second substrates [2, 3], a seal pattern [8] disposed between outer peripheral portions of the first and second substrates, and a plurality of venting portions [J, K2] formed in the seal pattern at corner portions of the first and second substrates for venting air confined between the first and second substrates, wherein each corner portion of the first and second substrates includes at least one of the vent portions extending from the seal pattern [see Fig. 9]. Claim 1 is therefore anticipated.

The air [11] surrounded by the seal pattern is discharged through each of the plurality of venting portions [through K2] during bonding of the first and second substrates, so claim 5 is also anticipated. (It is noted that claim 5 recites a product-by-process limitation, which is only limited to the structure implied by the steps, not the steps themselves, and the steps do not limit the structure so the claim is anticipated in

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any event.) A width of the seal pattern is given as 0.3 mm [col. 11, line 58-59], so claim 6 is also anticipated.

Asakura discloses a method of manufacturing a liquid crystal display device comprising providing first and second substrates [2, 3], forming a seal pattern [8] along an outer peripheral surface of the first substrate, the seal pattern configured such that a seal line is discontinuous at each corner of the first and second substrates to form a vent portion extending from the seal pattern [see Fig. 9], and adhering the first substrate having the seal pattern formed thereon with the second substrate. Claim 7 is therefore anticipated as well.

An area of adjacent parts of the seal line at each corner of the seal pattern increases so as to connect them together during the adhering of the first and second substrates [see Figs. 2D, 2E, for instance], so claim 8 is also anticipated. The method further comprises dropping liquid crystal [4a] into an inner region of the seal pattern formed in the first substrate [col. 9, lines 62ff.], so claim 9 is also anticipated.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1, 5, 7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Suzuki*, U.S. Patent No. 6,678,029 in view of *Asakura et al.*, U.S. Patent No. 6,531,329.

Suzuki discloses [see Figs. 2 and 3, for instance] a liquid crystal display device comprising first and second substrates [11T, 11F] a seal pattern [12] disposed between outer peripheral portions of the first and second substrates, and a plurality of venting portions [15] formed in the seal pattern at corner portions of the first and second substrates for venting air confined between the first and second substrates. *Suzuki* does not explicitly disclose that each corner portion of the first and second substrates includes at least one of the vent portions extending from the seal pattern. That is, *Suzuki* does disclose that each vent portion extends from the seal pattern [see Fig. 3], but not that each corner portion includes such a vent portion; instead, Fig. 3 shows them at only 2 corners.

However, *Suzuki* states that “[t]here are no limitations on the installing places or the numbers of these outlets [15]” [col. 12, lines 30-34], and *Asakura* discloses [see Fig. 9] an analogous LCD with air bubble accommodation portions at all four corners. It would have been obvious to one of ordinary skill in the art at the time of the invention to have 4 such outlets, one at each corner of the LCD, motivated by the more rapid flow of air (bubbles) through 4 such holes than through 2 such holes, and the bubbles in the lower half of the display having closer holes to reach, hence increasing the speed of production. Claim 1 is therefore unpatentable.

The air [in the form of bubbles] surrounded by the seal pattern is discharged through each of the plurality of venting portions during bonding of the first and second substrates, so claim 5 is also anticipated. (It is noted that claim 5 recites a product-by-process limitation, which is only limited to the structure implied by the steps, not the steps themselves, and the steps do not limit the structure so in any event the claim is unpatentable.)

Suzuki discloses a method of manufacturing a liquid crystal display device comprising providing first and second substrates [11T, 11F], forming a seal pattern [12] along an outer peripheral surface of the first substrate, the seal pattern configured [see Fig. 3] such that a seal line is discontinuous at corners of the first and second substrates to form a vent portion extending from the seal pattern, and adhering the first and second substrates. As above, it would have been obvious to one of ordinary skill in the art at the time of the invention to have these vent portions at each corner, so claim 7 is unpatentable.

Suzuki discloses dropping liquid crystal material into an inner region of the seal pattern formed in the first substrate [col. 7, line 45ff.], so claim 9 is unpatentable. *Suzuki* also discloses using the vacuum injection method, with the seal pattern having at least one liquid crystal injection hole [16, for instance, see col. 13, lines 1-4], so claim 10 is unpatentable. This method comprises injecting liquid crystal material into a cell gap formed by attachment of the first and second substrates, and sealing the liquid crystal injection hole [see col. 8, lines 60-65, for instance], so claim 11 is also unpatentable.

Allowable Subject Matter

8. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose the device of claim 2, in particular the limitation that each of the plurality of venting portions formed at the corner portions of the first and second substrates include a plurality of opposing vent openings [as shown in Figs. 3 and 7]. (*Suzuki* discloses [see Fig. 7, for instance] a plurality of venting portions formed in the seal pattern at corner portions, each including a plurality of vent openings, but they are oriented perpendicularly to each other, not opposed as recited in claim 2.) Claim 2 would therefore be allowable if rewritten appropriately, as would claim 3 which depends on claim 2.

The prior art does not disclose the device of claim 4, in particular the limitations that each corner portion has at least one of the vent portions extending from the seal pattern, with each of the venting portions aligned in a direction of a corner of the first and second substrates [as shown in Figs. 4 and 5]. Claim 4 would therefore be allowable if rewritten appropriately.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

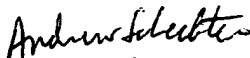
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Andrew Schechter
Patent Examiner
Technology Center 2800
15 March 2005